

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number
WO 2005/035750 A3

(51) International Patent Classification⁷: C12N 1/20,
C12R 1/01

(21) International Application Number:
PCT/EP2004/052492

(22) International Filing Date: 11 October 2004 (11.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03023032.0 13 October 2003 (13.10.2003) EP

(71) Applicant (for all designated States except US):
**GESELLSCHAFT FÜR BIOTECHNOLOGISCHE
FORSCHUNG** [DE/DE]; Mascheroder Weg 1, 38124
Braunschweig (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FERRER, Manuel**
[ES/ES]; Juan de Urbeita 2 D, E-28007 Madrid (ES).
TIMMIS, Kenneth, N. [GB/DE]; Stobenstrasse 5, 38300
Wolfenbüttel (DE). **CHERNIKOVA, Tatjana** [UZ/UZ];
Akhangaranskay schosse 8/10, Tashkent, 700040 (UZ).
GOLYSHIN, Peter [RU/DE]; Ungerstrasse 5, 38302
Wolfenbüttel (DE). **YAKIMOV, Michail** [IT/IT]; Compl.
Linea Verde, Pal. 13 N, Via Nuova Panoramica dello
Stretto 1416, I-98168 Messina (IT).

(74) Agent: **TARUTTIS, Stefan**; Vahrenwalder Strasse 7,
30165 Hannover (DE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments
- with sequence listing part of description published sepa-
rately in electronic form and available upon request from
the International Bureau

(88) Date of publication of the international search report:
20 October 2005

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: TRANSGENIC ORGANISMS WITH LOWER GROWTH TEMPERATURE

(57) Abstract: The present invention in general relates to the growth temperature of organisms, especially plants and microorgan-
isms and the manipulation of the tolerable cultivation temperature. More specifically, the present invention relates to the expression
of heterologous proteins in microorganisms, and especially to the heterologous expression of heat sensitive proteins in bacteria, either
gram-negative or gram-positive. In a first aspect, the present invention provides a method for manipulation of cells and the resultant
cells, characterized in that at least one gene from a psychrophilic micro organism coding for at least one chaperone or chaperonin is
expressed. Such cells are selected among cultivated eukaryotic cells, i.e. animal and plant cells and entire plants, gram-negative and
gram-positive bacteria, fungi and yeasts.

Best Available Copy

WO 2005/035750 A3